MOLECULAR BIOLOGY

MUTATIONAL ANALYSIS OF NUCLEOTIDES 450 AND 483 OF THE 16S rRNA IN *ESCHERICHIA COLI*

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The ribosome is a macromolecular machine composed of rRNA and an array of ribosomal proteins. This complex is responsible for catalyzing protein synthesis. Because of its essential role in the expression of genetic information, the ribosome has been extensively analyzed.

Helix 17 in the 5' domain of the 16 S rRNA is especially interesting because it is unique to specific groups of bacteria, and nucleotides G450 and C483 are highly conserved. To better understand the role of G450 and C483 in protein synthesis, positions 450 and 483 were mutated and the mutants were analyzed for ribosome function. Mutations were constructed in pASS2-GFP(2), an *in vivo* expression vector derived from pRNA122[1,2]. The vector produces ribosomes able to translate only green fluorescent protein (GFP) and chloramphenicol acetyltransferase (CAT).

1 Lee, K., Holland-Staley, C.A., and Cunningham, P.R. (1996). *RNA* **2**, 1270-85.
2 Lee, K., Varma, S., SantaLucia, J. Jr, and Cunningham, P.R. (1997). *J. Mol. Biol.* **269**, 732-43.